**Job Specific Environmental Awareness Training — Vacuum System Maintenance**

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**Course Objective:** A Significant Environmental Aspect is associated with vacuum system maintenance. This course has been designed to provide you with the job-specific information that you need know to protect the environment and to meet Laboratory and Government regulations for handling the waste streams produced by this operation. The contents of this training have been extracted from the NSLS PRM and BNL Subject Area.

**Description of Significant Environmental Aspect:** Changing the oil in vacuum pumps and cleaning vacuum pumps and other oily parts result in the generation of wastes that need to be controlled. "LPS Precision Clean" is the NSLS-approved solution used to clean oil contaminated pumps and parts. Waste oil, oily debris and waste cleaning solution produced by the maintenance of the vacuum pumps are not RCRA[1] hazardous wastes. However, these wastes contain oil and other chemical compounds that are banned from the regular waste stream by Federal and State regulations. These wastes, which are referred to as industrial wastes, are managed in the same manner as RCRA hazardous waste except for the label used, as explained below.

**Training Requirements:** The Vacuum Group Supervisor and the vacuum technicians are required to take RCRA Hazardous Waste Generator training. The Vacuum Group Engineer is required to read and sign this form.

**Operational Controls:** Waste oil and waste "LPS Precision Clean" shall be labeled with a green, non-hazardous waste label and shall be kept closed. Oily rags shall be discarded into a fireproof container. When the waste containers become full, they shall be transferred as described below:

- Waste oil containers shall be emptied into the designated waste oil drum (between west roll-up doors).
- Waste "LPS Precision Clean" containers shall be emptied into the designated waste cleaner drum (located by the NSLS Stockroom). Do not mix oil and "LPS Precision Clean".
- Oily debris shall be bagged and identified with a green label and brought to the 90-day Storage Area. A non-radioactive waste form shall be filled out describing the waste.

Use of cleaners other than "LPS Precision Clean" must be assessed by the department's ES&H staff to determine if the cleaners have constituents present, such as solvents, which would cause the above wastes to become RCRA hazardous waste. If the waste becomes RCRA hazardous waste, it must be labeled with a red, hazardous waste label (instead of the green label) and the waste form must identify the hazardous constituents of the oil.

**Response to Leaks/Spills:** If oil is spilled, take prompt action to prevent it from discharging to floor drains or sinks. Any discharge to a drain or to the outdoors must be reported to the Lab emergency response number (x2222) and to the NSLS Control Room Operator (x2550) or member of the NSLS ES&H staff. Any indoor spill greater than five gallons shall also be reported as described. You can clean up other spills on your own, if you are familiar with the hazards present and are comfortable doing so.

**Your Role and Responsibility:** You are responsible for the proper management of your waste and to take prompt action in the event of spills. If you are ever in doubt regarding the proper course of action, contact your supervision or a member of the NSLS ESH Staff.

**Potential Regulatory and Environmental Impacts:** Mismanagement of waste can result in violations of RCRA hazardous waste regulations. Discharge of oils and other chemicals to drains can result in violations of BNL release limits. Both can ultimately result in contaminated soil or groundwater. BNL is subject to fines and penalties for such violations and is responsible for the clean-up costs associated with any required remediation. BNL has also suffered poor public perception due to poor waste management practices and contamination events in the past. Proper management of waste and spills will improve our relationship with regulators and the public.

**Pollution Prevention and Waste Minimization:** Cooperate with NSLS's recycling efforts by depositing all empty aerosol cans into the designated empty aerosol-can recycling container (located by NSLS Stockroom). Please offer any suggestions and comments to your supervision about pollution prevention and waste minimization in order to help the NSLS reduce disposal costs and achieve waste minimization goals.

| Print Name | Sign Name | Life Number | Date |
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Signature conveys that you have read and understand this information.

[1] Federal regulations for hazardous waste are contained in the Resource Conservation and Recovery Act (RCRA).

**NSLS Environmental Management Training**

**Background** Environmental and hazardous waste management regulations are among the most sensitive and visible issues in the American society. At BNL, these regulations are indisputably the most sensitive topic within the ESH arena since environmental releases and the perception of poor waste handling practices were at the heart of the AUI discharge by DOE and in the development of the strong management emphasis on these issues. In light of the high visibility and sensitivity to these issues, BNL management committed to the development of an Environmental Management Program that met all the requirements of ISO 14001, an international organization which has adopted standards for many types of programs, including environmental management.

A key issue within ISO 14001 is the identification of all activities at a facility that are associated with significant environmental aspects. All activities involving a significant aspect are to be managed and controlled to ensure that no adverse environmental impact results. As a part of that program, all personnel whose work involves a significant environmental aspect[1] will be provided specific environmental awareness training relating to their duties.

There are several work activities at NSLS that are involved with our facilities' significant environmental aspects. These activities are:

- Regeneration of process water mixed bed deionizing and Cooling Water System Maintenance
- Machine shop operations
- Photographic dark room operations
- Vacuum pump maintenance
- Electrical/mechanical assembly
- Experimental Program
- 90 Day/Satellite Area Operation
- Silicon Crystal Etching

For each of these activities, job specific training has been developed to ensure knowledge of applicable requirements that should be followed to properly control the significant environmental aspects.

[1] Significant environmental aspects have been defined at BNL as involving any of the following issues:

- Generation of any amount of industrial, hazardous, radioactive, mixed, or medical wastes
- Air or liquid effluents or emissions exceeding defined values
- Storage or use of chemicals or radioactive material above certain thresholds